11-10-1985

# Automated Test Station for the SSQ-77A Sonobuoy Lower Board Electronics Stack

Jerry R. Rattigan Jr
*Indiana University - Purdue University Fort Wayne*

# THE DESIGN

# OF A

# AUTOMATED TEST STATION

# FOR THE

# SSQ-77A SONOBUOY LOWER BOARD ELECTRONICS STACK

PREPARED FOR

THE FACULTY OF THE

ELECTRICAL ENGINEERING TECHNOLOGY DEPARTMENT

INDIANA & PURDUE UNIVERSITY

FORT WAYNE

PREPARED BY

JERRY R. RATTIGAN JR.

NOVEMBER 10, 1985

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ABSTRACT

This automatic test station has been designed to test the SSQ-77A Sonobuoy Lower Board Electronics according to testing procedure dictated in Magnavox document number 577070. All equipment, both purchased and Magnavox constructed, have been selected such that all accuracies dictated in the above test specification can be met and exceeded in all test cases. The station is capable of testing a complete lower board assembly in approximately four minutes. The testing sequence consists of ninety five individual which are performed in the order that they appear in the test speicification. Approximately fourty thousand lower board units are to be tested on the station before the FY-86 design is incorporated. At that time the three board stack will be reduced to a two board stack, but the testing procedure will remain somewhat the same. The test fixturing and software will undergo some minor modifications to accomodate these changes. The software that controls the test station and performs all the tests consists of approximately four thousand individual lines of code. The software was designed and written to be as user friendly as possible. At all times in the program the computer tells the operator what to do and what not to do. The station was designed to be completely automated. All that the operator is required to do is to load and unload

the test boards and to initialize the testing sequence. The stations have both been approved by Magnavox's quality assurance group and have undegone calibration. The test stations have tested somewhere in the area of two thousand stacks since their arrival in Angola a short while ago.